STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 190349

TO: Kellette Gale
Location: REM-5D20&5C18
Art Unit: 1621
Wednesday, May 24, 2006
Case Serial Number: 10/761591

From: Toby Port
Location: Biotech-Chem Library
REM-1A59
Phone: (571)272-2523

toby.port@uspto.gov

Search Notes

Dear Examiner Gale,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Toby Port
Technical Information Specialist
STIC Biotech/Chem Library
(571)272-2523

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor
571-272-2507 Remsen E01 D86

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*

- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library Remsen Bldg.

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ACCESS DB # 190349

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RECEIVED [illegible] 17 [illegible]

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Kellette Gale Examiner # : 82061 Date: 5/16/06

Art Unit: 1621 Phone Number: 2- 8038 Serial Number: 10/761,591

Location (Bldg/Room#): Rem 5D20 (Mailbox #): Rem 5C18 Results Format Preferred (circle): ~~PAPER~~ DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: See BIB

Inventors (please provide full names): ↓

Earliest Priority Date: ↓

Search Topic:
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search:

1. Method for purifying phenol product stream using phenol & by-product of process for making phenol from sec-butyl benzene, under suitable reaction conditions w/ acid catalyst in order to convert by-product used to a reaction product.
2. by-product being hydroxybutanone.
3. acidic catalysts being: zeolites, ion exchange resins ~~and~~ or aluminas
4. temp = 50–250°C, pressure: 100psig
5. Please see all other Independent claims those dependent thereof. Stop at claim 24.

[illegible] K Paye PE, AU-1621

[illegible]

UNITED STATES PATENT AND TRADEMARK OFFICE

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Bib Data Sheet

CONFIRMATION NO. 4285

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/761,591	01/21/2004 RULE	568	1621	TH2442 (US)

APPLICANTS

Larry Wayne Payne, Houston, TX;

** CONTINUING DATA **********

This appln claims benefit of 60/445,528 02/06/2003

** FOREIGN APPLICATIONS **********

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 04/23/2004

Foreign Priority claimed	STATE OR	SHEETS	TOTAL	INDEPENDENT
☐ yes ☐ no	COUNTRY	DRAWING	CLAIMS	CLAIMS
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance	TX	1	31	8
Verified and Acknowledged _____ Examiner's Signature _____ Initials				

ADDRESS
23632
SHELL OIL COMPANY
P O BOX 2463
HOUSTON , TX
772522463

TITLE
Method of making high purity phenol

FILING FEE	FEES: Authority has been given in Paper	☐ All Fees
RECEIVED	No. _____ to charge/credit DEPOSIT ACCOUNT	☐ 1.16 Fees (Filing)
2048	No. _____ for following:	☐ 1.17 Fees (Processing Ext. of time)
		☐ 1.18 Fees (Issue)
		☐ Other _____
		☐ Credit

In the Claims:

1. (Original) A method, comprising:

purifying a phenol product stream, wherein said phenol product stream comprises phenol and a first concentration of a contaminant by-product of a process for making phenol derived from sec-butyl benzene, by contacting, under suitable reaction conditions, said phenol product stream with an acidic catalyst to thereby convert at least a portion of said contaminant by-product to a reaction product.

2. (Original) The method of claim 1 wherein said first concentration of said contaminant by-product is in the range of from about 3 ppmw to about 10,000 ppmw, and the amount of phenol in said phenol product stream is in the range of from 95 weight percent upwardly to about 100 weight percent of said phenol product stream.

3. (Original) The method of claim 2 wherein said contaminant by-product is hydroxybutanone.

4. (Original) The method of claim 3 further comprising:

yielding a treated phenol product stream having a second concentration of said contaminant by-product that is lower than said first concentration of said contaminant by-product.

5. (Original) The method of claim 4 wherein said second concentration of said contaminant by-product is less than 3 ppmw.

6. (Original) The method of claim 5 wherein said acidic catalyst is selected from the group of materials consisting of zeolites, ion exchange resins and aluminas.

7. (Original) The method of claim 6 wherein said suitable reaction conditions include a contacting temperature in the range of from about 50°C to about 250°C, a contacting pressure in the range upwardly to about 100 psig.

8. (Original) The method of claim 1 wherein said suitable reaction conditions include a contacting temperature in the range of from about 50°C to about 250°C, a contacting pressure in the range upwardly to about 100 psig.

9. (Original) The method of claim 8 further comprising:

yielding a treated phenol product stream having a second concentration of said contaminant by-product that is lower than said first concentration of said contaminant by-product.

10. (Original) The method of claim 9 wherein said contaminant by-product is hydroxybutanone.

11. (Original) A method of purifying a phenol product stream, wherein said phenol product stream comprises phenol and a concentration of hydroxy butanone, said method comprises:

contacting said phenol product stream with an acid catalyst; and

yielding a purified phenol product having a reduced concentration of hydroxy butanone.

12. (Original) The method of claim 11 wherein said concentration of hydroxy butanone is in the range of from about 3 ppmw to about 10,000 ppmw and the amount of phenol in said phenol product stream is in the range of from 95 weight percent upwardly to about 100 weight percent of said phenol product stream.

13. (Original) The method of claim 12 wherein said contacting step is conducted under reaction conditions including a contacting temperature in the range of from about 50°C to about 250°C and a contacting pressure in the range upwardly to about 100 psig.

14. (Original) The method of claim 13 wherein said acid catalyst is selected from the group of materials consisting of zeolites, ion exchange resins and aluminas.

15. (Original) The method of claim 14 wherein said reduced concentration of hydroxy butanone of said purified phenol product is less than said concentration of hydroxy butanone of said phenol product stream.

16. (Original) A method as recited in claim 15 wherein said reduced concentration of hydroxy butanone of said purified phenol product is less than about 3 ppmw.

17. (Original) A method, comprising:

obtaining a phenol product stream derived from a mixed feed of cumene and sec-butyl benzene, wherein said phenol product stream includes a concentration of a contaminant;

contacting under purification conditions said phenol product stream with an acid catalyst; and

yielding a purified phenol product.

18. (Original) The method of claim 17 wherein said contaminant is an aliphatic hydroxy carbonyl compound and said concentration of said contaminant exceeds 3 ppmw.

19. (Original) The method of claim 18 wherein said purification conditions include a contacting temperature in the range of from about 50°C to about 250°C and a contacting pressure in the range upwardly to about 100 psig.

20. The method of claim 19 wherein said purified phenol product contains less than 3 ppmw of said contaminant.

21. (Original) The method of claim 20 wherein said phenol product stream includes phenol in an amount exceeding 99 weight percent of the phenol product stream and said contaminant is hydroxy butanone.

22. (Original) A method of making a high purity phenol product, said method comprises:

subjecting a mixed feed comprising cumene and sec-butyl benzene to oxidation conditions to yield an oxidation reaction product comprising sec-butyl benzene hydroperoxide and cumene hydroperoxide;

subjecting at least a portion of the sec-butyl benzene hydroperoxide and cumene hydroperoxide of said oxidation reaction product to decomposition reaction conditions to yield a cleavage reaction product comprising phenol, acetone, and methyl ethyl ketone;

separating said cleavage reaction product into at least a phenol product stream and another product stream wherein said phenol product stream comprises at least a portion of said phenol of said cleavage reaction product and a contaminant by-product; and

contacting under suitable purification reaction conditions said phenol product stream with an acid catalyst to thereby convert at least a portion of said contaminant by-product to a reaction product.

23. (Original) The method of claim 22 wherein said acid catalyst is selected from the group of catalyst materials consisting of zeolite compounds, cation exchange resins and aluminas.

24. (Original) The method of claim 21 wherein said contaminant by-product includes hydroxy butanone.

25. (Withdrawn) A purified phenol product, comprising:
phenol derived from sec-butyl benzene, wherein said purified phenol product has a non-contaminating concentration of a contaminant.

26. (Withdrawn) The purified phenol product of claim 22 wherein the amount of phenol is in the range of exceeding about 99 weight percent of said purified phenol product, and wherein said contaminant is an aliphatic hydroxy carbonyl compound, and wherein said non-contaminating concentration of said aliphatic hydroxy carbonyl compound is less than about 3 ppmw of said contaminant.

27. (Withdrawn) The purified phenol product of claim 23 wherein the amount of phenol is in the range exceeding 99.8 weight percent of said purified phenol product and wherein said non-contaminating concentration is less than 1 ppmw.

28. (Withdrawn) A phenol product, comprising:
a sec-butyl benzene derived phenol product having been purified by treatment with an acid catalyst.

29. (Withdrawn) A high priority phenol composition, comprising:

phenol derived from sec-butyl benzene containing less than about 3 ppmw hydroxybutanone.

30. (Withdrawn) A system for treating a phenol product stream containing a concentration of a contaminant, said system comprises:

a reactor defining a reaction zone wherein contained within said reaction zone is an acidic catalyst and phenol.

31. (Withdrawn) A purified phenol product manufactured by any one of the methods of claims 1-21.

P.D.: 2/6/2003


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=> file reg; d ide l4 1-8
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STRUCTURE FILE UPDATES:   22 MAY 2006  HIGHEST RN 885262-53-3
DICTIONARY FILE UPDATES:  22 MAY 2006  HIGHEST RN 885262-53-3

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*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                   *
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Structure search iteration limits have been increased.  See HELP SLIMITS
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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html


L4   ANSWER 1 OF 8  REGISTRY  COPYRIGHT 2006 ACS on STN
RN   9037-24-5  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Amberlyst 15 (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Amberlyst 15 DRY
CN   Amberlyst 15 Wet
CN   Amberlyst 15(H)
DR   550365-45-2, 54241-79-1
ENTE A sulfonated styrene-divinylbenzene copolymer cation exchange resin
MF   Unspecified
CI   PMS, COM, MAN
PCT  Manual registration
LC   STN Files:   BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CSCHEM,
       IFICDB, IFIPAT, IFIUDB, MSDS-OHS, PROMT, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**
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1453 REFERENCES IN FILE CA (1907 TO DATE)
45 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1455 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN **7439-98-7** REGISTRY
ED Entered STN: 16 Nov 1984
CN Molybdenum (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Amperit 105.054
CN Amperit 106.2
CN MChVL
CN Metco 63
CN Molybdenum element
CN NSC 600660
CN NSC 600661
CN NSC 600665
CN NSC 603570
CN NSC 603571
CN NSC 603572
CN TMOIO
CN TsM1
MF Mo
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
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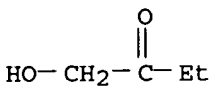
Mo

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

118298 REFERENCES IN FILE CA (1907 TO DATE)
5721 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
118453 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN **5077-67-8** REGISTRY
ED Entered STN: 16 Nov 1984
CN 2-Butanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1-Hydroxy-2-butanone
CN 2-Oxobutan-1-ol
CN 2-Oxobutanol
FS 3D CONCORD
MF C4 H8 O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, MEDLINE, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

257 REFERENCES IN FILE CA (1907 TO DATE)
258 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN **1344-28-1** REGISTRY
ED Entered STN: 16 Nov 1984
CN Aluminum oxide (Al2O3) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN α-Alumina
CN α-Aluminum oxide
CN δ-Alumina
CN δ-Aluminum oxide
CN η-Alumina
CN γ-Alumina
CN γ-Aluminum oxide
CN κ-Alumina
CN κ-Aluminum oxide
CN 1067-2M
CN 201P2
CN 202P1
CN 24A
CN 272LA-A5
CN 2N
CN 2N (alumina)
CN 32A
CN 38A
CN 50A
CN 50AWA16
CN 9139A
CN A 1
CN A 1 (sorbent)
CN A 10
CN A 100
CN A 100 (oxide)
CN A 11
CN A 11 (support)
CN A 12
CN A 12 (metal oxide)
CN A 12-4
CN A 13L
CN A 13UG
CN A 14
CN A 14 (alumina)
CN A 14C-M
CN A 152GR
CN A 152SG
CN A 16

CN A 16SG
CN A 16UG
CN A 17
CN A 17NE
CN A 18
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CN A 20
CN A 20 (alumina)
CN A 202HF
CN A 21
CN A 21 (alumina)
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 457654-46-5, 546141-61-1, 663170-52-3, 170448-81-4, 165390-91-0, 12522-88-2, 12737-16-5, 163581-50-8, 122784-35-4, 127361-04-0, 53809-96-4, 54352-04-4, 131689-14-0, 135152-65-7, 135667-70-8, 67853-35-4, 67894-14-8, 67894-42-2, 68189-68-4, 68389-42-4, 68389-43-5, 138361-58-7, 76363-81-0, 74871-10-6, 148619-39-0, 153858-98-1, 152743-26-5, 84149-21-3, 90669-62-8, 39354-49-9, 107462-07-7, 107874-14-6, 157516-29-5, 190401-78-6, 200295-99-4, 205316-36-5, 209552-43-2, 230616-05-4, 252756-35-7, 253606-45-0, 253606-46-1, 253606-47-2, 268724-08-9, 334869-46-4, 488831-46-5
MF Al2 O3
CI COM, MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

257938 REFERENCES IN FILE CA (1907 TO DATE)
2568 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
258559 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN **513-86-0** REGISTRY
ED Entered STN: 16 Nov 1984
CN 2-Butanone, 3-hydroxy- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN (±)-3-Hydroxybutan-2-one
CN (±)-Acetoin
CN γ-Hydroxy-β-oxobutane
CN 1-Hydroxyethyl methyl ketone
CN 2,3-Butanolone
CN 2-Hydroxy-3-butanone
CN 3-Hydroxy-2-butanone
CN 3-Oxo-2-butanol
CN acetoin
CN Acetoin
CN Acetyl methyl carbinol
CN Dimethylketol

CN DL-Acetoin
CN Methanol, acetylmethyl-
CN NSC 7609
FS 3D CONCORD
DR 52217-02-4
MF C4 H8 O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM*, EMBASE, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
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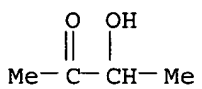
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



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3811 REFERENCES IN FILE CA (1907 TO DATE)
19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3820 REFERENCES IN FILE CAPLUS (1907 TO DATE)
21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN 135-98-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzene, sec-butyl- (8CI)
OTHER NAMES:
CN (±)-sec-Butylbenzene
CN (α-Methylpropyl)benzene
CN (1-Methylpropyl)benzene
CN (RS)-2-Phenylbutane
CN 2-Phenylbutane
CN NSC 8466
CN sec-Butylbenzene
FS 3D CONCORD
DR 36383-15-0
MF C10 H14
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, DETHERM*, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, RTECS*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
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Other Sources: DSL**, EINECS**, TSCA**
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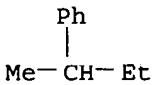

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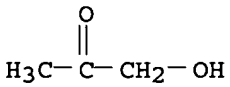
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1505 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN **116-09-6** REGISTRY
ED Entered STN: 16 Nov 1984
CN 2-Propanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propanone, hydroxy- (6CI)
OTHER NAMES:
CN α-Hydroxyacetone
CN 1-Hydroxy-2-propanone
CN 2-Oxopropanol
CN Acetol
CN Acetone alcohol
CN Acetylcarbinol
CN Acetylmethanol
CN Hydroxyacetone
CN Hydroxymethyl methyl ketone
CN Hydroxypropanone
CN Methanol, acetyl-
CN NSC 102497
CN Rongal 5242
FS 3D CONCORD
MF C3 H6 O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



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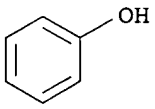
28 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1651 REFERENCES IN FILE CAPLUS (1907 TO DATE)
27 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN 108-95-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN Phenol (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Benzenol
CN Carbolic acid
CN ENT 1814
CN Hydroxybenzene
CN Monohydroxybenzene
CN Monophenol
CN NSC 36808
CN Oxybenzene
CN Phenic acid
CN Phenyl alcohol
CN Phenyl hydrate
CN Phenyl hydroxide
CN Phenylic acid
CN Phenylic alcohol
FS 3D CONCORD
DR 8002-07-1, 14534-23-7, 50356-25-7
MF C6 H6 O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PATDPASPC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

72689 REFERENCES IN FILE CA (1907 TO DATE)
10460 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
72835 REFERENCES IN FILE CAPLUS (1907 TO DATE)
11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> => file caplus; d que l9; d que l10; d que l12; d que l14; d que l18
FILE 'CAPLUS' ENTERED AT 17:12:00 ON 23 MAY 2006
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FILE COVERS 1907 - 23 May 2006 VOL 144 ISS 22
FILE LAST UPDATED: 22 May 2006 (20060522/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

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L5            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  135-98-8
L6            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  108-95-2
L7          251 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5(L)RACT+ALL/RL
L8         5929 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 (L) PREP+ALL/RL
L9           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 AND L8
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L6            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  108-95-2
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L8         5929 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 (L) PREP+ALL/RL
L9           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 AND L8
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L6            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  108-95-2
L7          251 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5(L)RACT+ALL/RL
L8         5929 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 (L) PREP+ALL/RL
L9           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 AND L8
L11           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  5077-67-8
L12           1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L9 AND L11
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L14           2 SEA FILE=CAPLUS ABB=ON  PLU=ON  L13 AND L7
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L6            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  108-95-2
L7          251 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5(L)RACT+ALL/RL
L8         5929 SEA FILE=CAPLUS ABB=ON  PLU=ON  L6 (L) PREP+ALL/RL
L9           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 AND L8
L18          15 SEA FILE=CAPLUS ABB=ON  PLU=ON  (?ACID? OR ?ZEOLITE? OR
                ?ALUMINA? OR ION EXCHANG?) AND L9
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L19 20 L9 OR L10 OR L12 OR L14 OR L18

=> d ibib ed abs hitind hitstr l19 1-20

L19 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:149630 CAPLUS
DOCUMENT NUMBER: 144:213173
TITLE: Production of bisphenol-A and co-producing methyl ethyl ketone
INVENTOR(S): Smith, Charles M.; Davoren, Dennis J.; Stanat, Jon E. R.
PATENT ASSIGNEE(S): Exxonmobil Chemical Patents Inc., USA; Exxonmobil Chemical Limited
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

N.G.D.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015825	A1	20060216	WO 2005-EP8554	20050805

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-601755P P 20040813
ED Entered STN: 17 Feb 2006
AB A process for producing bisphenol-A and co-producing Me Et ketone comprises alkylating benzene with a C3 alkylating agent in a first reaction zone to produce cumene and alkylating benzene with a C4 alkylating agent in a second reaction zone sep. from said first reaction zone to produce secbutylbenzene. The cumene and sec-butylbenzene are then oxidized, either sep. or as a mixture, to produce the corresponding hydroperoxides and the hydroperoxides are cleaved, either sep. or as a mixture, to produce phenol, acetone and Me Et ketone. The phenol, Me Et ketone and acetone are separated and at least part of the acetone and phenol are reacted to produce bisphenol-A.
IC ICM C07C039-16
ICS C07C037-20; C07C045-53; C07C002-10; C07C037-08; C07C039-04
CC 35-2 (Chemistry of Synthetic High Polymers)
IT **Zeolites** (synthetic), uses
RL: **CAT (Catalyst use)**; USES (Uses)
(ERB 1, ITQ 2, MCM 36, MCM 56, PSH 3, SSZ 25, alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)
IT Molecular sieves
(ITQ 1, alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of

bisphenol-A)

IT MCM **zeolites**
RL: **CAT (Catalyst use)**; USES (Uses)
(MCM-49, MCM **zeolites**, MCM-49, alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT **Zeolite** MCM-22
RL: **CAT (Catalyst use)**; USES (Uses)
(**Zeolite** MCM-22, alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT Beta **zeolites**
RL: **CAT (Catalyst use)**; USES (Uses)
(alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT Alkylation
Alkylation **catalysts**
Oxidation
(alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT 106-98-9, 1-Butene, reactions 107-01-7, 2-Butene 115-07-1, Propylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylating agent; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT 12173-28-3, Faujasite ((K0-1Na0-1Ca0-0.5)3.2-3.8(Al3.2-3.8Si8.2-8.8O24).16H2O) 12173-98-7, Mordenite
RL: **CAT (Catalyst use)**; USES (Uses)
(alkylation **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT 104-15-4, p-Toluenesulfonic **acid**, uses 7446-09-5, Sulfur dioxide, uses 7446-11-9, Sulfur trioxide, uses 7601-90-3, Perchloric **acid**, uses 7637-07-2, Boron trifluoride, uses 7647-01-0, Hydrochloric **acid**, uses 7664-38-2, Phosphoric **acid**, uses 7664-93-9, Sulfuric **acid**, uses 7705-08-0, Ferric chloride, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(homogeneous **catalyst**; alkylation of benzene using **zeolite** alkylation **catalyst** for production of bisphenol-A)

IT **135-98-8P**
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(intermediate; production of bisphenol-A and co-producing Me Et ketone)

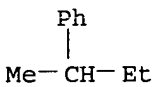
IT 7787-35-1, Barium manganese oxide (BaMnO4)
RL: **CAT (Catalyst use)**; USES (Uses)
(oxidation **catalyst**; production of bisphenol-A and co-producing Me Et ketone)

IT 67-64-1P, Acetone, preparation 78-93-3P, 2-Butanone, preparation **108-95-2P**, Phenol, preparation
RL: **BYP (Byproduct)**; **PREP (Preparation)**
(production of bisphenol-A and co-producing Me Et ketone by oxidation of sec-butylbenzene)

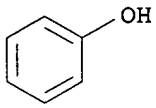
IT **135-98-8P**
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(intermediate; production of bisphenol-A and co-producing Me Et ketone)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT **108-95-2P**, Phenol, preparation
RL: **BYP (Byproduct)**; **PREP (Preparation)**
(production of bisphenol-A and co-producing Me Et ketone by oxidation of sec-butylbenzene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:147702 CAPLUS
DOCUMENT NUMBER: 144:234975
TITLE: Process for producing phenol and methyl ethyl ketone
INVENTOR(S): Cheng, Jane Chi-Ya; Buchanan, John S.; Levin, Doron; Steckel, Michael A.; Dakka, Jihad M.; Stokes, James P.; Robbins, John L.; Stanat, Jon E. R.; Smith, Charles M.; Santiesteban, Jose Guadalupe
PATENT ASSIGNEE(S): Exxonmobil Chemical Patents, Inc., USA; Exxonmobil Chemical Limited
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

N.G.D.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015826	A1	20060216	WO 2005-EP8557	20050805

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-601661P P 20040813
ED Entered STN: 17 Feb 2006
AB A process for producing phenol and Me Et ketone comprises contacting

benzene with a C4 alkylating agent under alkylation conditions with **catalyst** comprising a β- **zeolite** or a mol. sieve having an X-ray diffraction pattern including d-spacing maxima at 12.4 ± 0.25, 6.9 ± 0.15, 3.57 ± 0.07 and 3.42 ± 0.07 Angstrom to produce an alkylation effluent comprising sec-butylbenzene (I). I is then oxidized to produce a hydroperoxide and the hydroperoxide is decomposed to produce phenol and Me Et ketone. Using this **catalyst** provided I substantially free of isobutylbenzene and tert-butylbenzene byproducts.

IC ICM C07C002-70
ICS C07C015-02; C07C039-04; C07C045-53; C07C049-10; C07C409-08; C07C037-08

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 25, 67

ST phenol MEK simultaneous manuf benzene alkylation; secondary butylbenzene manuf benzene alkylation beta **zeolite catalyst**; mol sieve **catalyst** alkylation benzene secondary butylbenzene manuf

IT Molecular sieves
(ITQ 1, UZM 8; producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT MCM **zeolites**
RL: **CAT (Catalyst use)**; USES (Uses)
(MCM-49; producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT **Zeolites** (synthetic), uses
RL: **CAT (Catalyst use)**; USES (Uses)
(SSZ-25, PSH-3, ERB-1, ITQ-2, MCM-36, MCM-56; producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT Alkylation **catalysts**
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT Beta **zeolites**
Zeolite MCM-22
RL: **CAT (Catalyst use)**; USES (Uses)
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

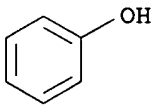
IT 78-93-3P, MEK, preparation **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT **135-98-8P**, sec-Butylbenzene
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

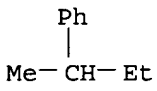
IT 878559-55-8, UZM 8
RL: NUU (Other use, unclassified); USES (Uses)
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)

IT 71-43-2, Benzene, reactions 107-01-7, 2-Butene 25167-67-3, Butene
RL: RCT (Reactant); RACT (Reactant or reagent)
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of

sec-butylbenzene intermediate)
IT **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8P**, sec-Butylbenzene
RL: IMF (Industrial manufacture); **RCT (Reactant)**; PREP (Preparation); **RACT (Reactant or reagent)**
(producing phenol and Me Et ketone by **zeolite-catalyzed** alkylation of benzene, followed by oxidation of sec-butylbenzene intermediate)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:654788 CAPLUS
DOCUMENT NUMBER: 141:175859
TITLE: **Catalytic** method for making high-purity phenol
INVENTOR(S): Payne, Larry Wayne
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Applicant N.G.D.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004158105	A1	20040812	US 2004-761591	20040121
WO 2004072008	A1	20040826	WO 2004-US3106	20040204

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

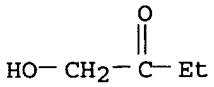
EP 1594829 A1 20051116 EP 2004-708153 20040204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
BR 2004007115 A 20060110 BR 2004-7115 20040204
CN 1747919 A 20060315 CN 2004-80003631 20040204
PRIORITY APPLN. INFO.: US 2003-445528P P 20030206
WO 2004-US3106 W 20040204

ED Entered STN: 13 Aug 2004

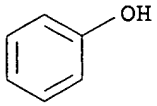
AB A method of manufacturing a phenol product having a reduced concentration of a contaminating reaction byproduct is described which includes contacting a phenol stream, having a concentration of the contaminating byproduct, by contacting the phenol stream with an **acidic catalyst** under suitable purification reaction conditions. Also included is a composition comprising a sec-butylbenzene-derived phenol product that has been purified by the removal of certain undesirable reaction byproducts through contact with an **acidic catalyst.** A process flow diagram is presented.

IC ICM C07C029-74
INCL 568810000
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 25, 48, 67
ST phenol **catalytic** purifn
IT **Catalysts**
(**acidic** compns.; **catalytic** method for making high-purity phenol)
IT Cation exchangers
(**acidic**; **catalytic** method for making high-purity phenol)
IT Purification
(**catalytic** method for making high-purity phenol)
IT Y **zeolites**
Zeolites (synthetic), processes
RL: **CAT (Catalyst use)**; EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**catalytic** method for making high-purity phenol)
IT **Phenols, preparation**
RL: EPR (Engineering process); **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; **PREP (Preparation)**; PROC (Process)
(**catalytic** method for making high-purity phenol)
IT 116-09-6P, Hydroxyacetone 513-86-0P, 3-Hydroxy-2-butanone **5077-67-8P**, 1-Hydroxy-2-butanone
RL: BYP (Byproduct); EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(**catalytic** method for making high-purity phenol)
IT 1344-28-1, **Alumina**, processes 7439-98-7, Molybdenum, processes 9037-24-5, Amberlyst 15
RL: **CAT (Catalyst use)**; EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**catalytic** method for making high-purity phenol)
IT **108-95-2P**, Phenol, preparation
RL: EPR (Engineering process); **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; **PREP (Preparation)**; PROC (Process)
(**catalytic** method for making high-purity phenol)
IT **135-98-8**, sec-Butylbenzene
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); **RCT (Reactant)**; PROC (Process); **RACT (Reactant or**

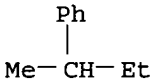
reagent)
(**catalytic** method for making high-purity phenol)
IT **5077-67-8P**, 1-Hydroxy-2-butanone
RL: BYP (Byproduct); EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(**catalytic** method for making high-purity phenol)
RN 5077-67-8 CAPLUS
CN 2-Butanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)



IT **108-95-2P**, Phenol, preparation
RL: EPR (Engineering process); **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; **PREP (Preparation)**; PROC (Process)
(**catalytic** method for making high-purity phenol)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**, sec-Butylbenzene
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); **RCT (Reactant)**; PROC (Process); **RACT (Reactant or reagent)**
(**catalytic** method for making high-purity phenol)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:246557 CAPLUS
DOCUMENT NUMBER: 134:282462
TITLE: Manufacture of phenol, acetone and methyl ethyl ketone
INVENTOR(S): Pompetzki, Werner; Gerlich, Otto; Kleinloh, Werner
PATENT ASSIGNEE(S): Phenolchemie G.m.b.H. & Co. K.-G., Germany
SOURCE: Eur. Pat. Appl., 7 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1088809	A1	20010404	EP 2000-117403	20000811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19946888	A1	20010405	DE 1999-19946888	19990930
BG 104775	A	20010928	BG 2000-104775	20000919
JP 2001151710	A2	20010605	JP 2000-294173	20000927
CN 1290681	A	20010411	CN 2000-129071	20000929
PRIORITY APPLN. INFO.:			DE 1999-19946888 A	19990930

ED Entered STN: 06 Apr 2001

AB The Hock fragmentation of cumene hydroperoxide (I) produces equimol. amts. of PhOH and Me2CO but the fragmentation of hydroperoxides obtained from mixts. of I containing ≤25% sec-butylbenzene gives the mixts. of the title compds. where the ratio of individual compds. can be regulated. For example, oxidizing a mixture of 80% cumene and 20% EtCHMePh for 2.5 h at 132° with O, concentrating the products in vacuo and subjecting the residue to heating at 50° in the presence of 2000 ppm H2SO4 gave the title compds. with the fragmentation yield >95% for Me2CO, 92.3 for EtCOMe and >99% for PhOH.

IC ICM C07C037-08
ICS C07C045-53

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

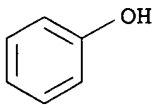
IT 7664-93-9, Sulfuric **acid**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(fragmentation **catalyst**; manufacture of phenol, acetone and Me Et ketone by fragmentation of cumene and sec-butylbenzene hydroperoxides)

IT 67-64-1P, Acetone, preparation 78-93-3P, Methyl ethyl ketone, preparation **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(manufacture of phenol, acetone and Me Et ketone by fragmentation of cumene and sec-butylbenzene hydroperoxides)

IT 98-82-8, Cumene **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation; manufacture of phenol, acetone and Me Et ketone by fragmentation of
cumene and sec-butylbenzene hydroperoxides)

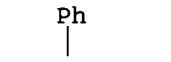
IT **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(manufacture of phenol, acetone and Me Et ketone by fragmentation of cumene and sec-butylbenzene hydroperoxides)

RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation; manufacture of phenol, acetone and Me Et ketone by fragmentation of
cumene and sec-butylbenzene hydroperoxides)

RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



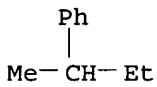
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:246555 CAPLUS
DOCUMENT NUMBER: 134:266096
TITLE: Oxidative and bond-cleavage process for the preparation of phenol, methyl ethyl ketone and acetone from mixtures of secondary-butylbenzene and cumene
INVENTOR(S): Pompetzki, Werner; Gerlich, Otto; Kleinloh, Werner
PATENT ASSIGNEE(S): Phenolchemie G.m.b.H. & Co. K.-G., Germany
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

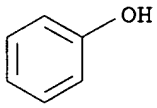
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1088807	A1	20010404	EP 2000-117401	20000811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19946887	A1	20010405	DE 1999-19946887	19990930
BG 104776	A	20010531	BG 2000-104776	20000919
JP 2001097901	A2	20010410	JP 2000-294583	20000927
BR 2000004487	A	20010529	BR 2000-4487	20000927
CN 1290682	A	20010411	CN 2000-129072	20000929
PRIORITY APPLN. INFO.:			DE 1999-19946887 A	19990930

OTHER SOURCE(S): CASREACT 134:266096
ED Entered STN: 06 Apr 2001
AB Phenol, Me Et ketone, and acetone are prepared in high yield and selectivity by the oxidation of mixts. of secondary-butylbenzene and cumene (the cumene content in the mixture is 3-15%) with oxygen-containing gases (e.g., air) to form a mixture of secondary-butylbenzene hydroperoxide and cumene hydroperoxide which are subjected to bond cleavage in the presence of an **acid** (e.g., sulfuric **acid**) **catalyst.**
IC ICM C07C037-08
ICS C07C045-53
CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23, 45
IT **Acids**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(bond cleavage **catalysts** for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)
IT Decomposition **catalysts**
(bond cleavage **catalysts**; **acids** for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)
IT Bond cleavage
(**catalysts**; **acids** for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)

IT 98-82-8, Cumene **135-98-8** 7782-44-7, Oxygen, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
IT 67-64-1P, Acetone, preparation 78-93-3P, MEK, preparation
108-95-2P, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:486255 CAPLUS
DOCUMENT NUMBER: 121:86255
TITLE: Process for producing phenol and methyl ethyl ketone
INVENTOR(S): Nishida, Hiroshi; Kimura, Kazuo; Hamada, Shouji; Toma, Masaaki; Nagaoka, Hirooki
PATENT ASSIGNEE(S): Sumitomo Chemical Company, Ltd., Japan
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

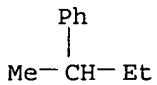
102(b) Date

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 5304684	A	19940419	US 1993-86896		19930707
JP 06072921	A2	19940315	JP 1992-344333		19921224
JP 3367056	B2	20030114			
PRIORITY APPLN. INFO.:			JP 1992-179711	A	19920707
			JP 1992-344333	A	19921224

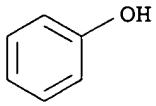
JP 1993-4493 A 19930305

ED Entered STN: 20 Aug 1994
AB Sec-butylbenzene hydroperoxide obtained by oxidizing sec-butylbenzene is decomposed into phenol and MEK, a resulting liquid comprising MEK as the main component is washed with an aqueous alkali solution to remove carboxylic **acids**, carboxylic **acid** esters, unsatd. ketones, and aldehydes, and the washed liquid is further subjected to neutralization, dehydration, and distillation MEK can be obtained which has a high quality with regard to purity and potassium permanganate fading.
IC ICM C07C045-53
INCL 568385000
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(peroxidn. and decomposition of, for phenol and MEK)
IT 78-93-3P, MEK, preparation **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparation of, by decomposition of butylbenzene hydroperoxide)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(peroxidn. and decomposition of, for phenol and MEK)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

what is aqueous alkali solution?



IT **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparation of, by decomposition of butylbenzene hydroperoxide)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:438045 CAPLUS
DOCUMENT NUMBER: 121:38045
TITLE: Process for producing phenol and methyl ethyl ketone
INVENTOR(S): Nishida, Hiroshi; Kimura, Kazuo; Hamada, Shouji; Toma, Masaaki; Nagaoka, Hirooki
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 578194	A2	19940112	EP 1993-110771	19930706
EP 578194	B1	19980204		
R: BE, DE, FR, GB, IT, NL				
JP 06072921	A2	19940315	JP 1992-344333	19921224
JP 3367056	B2	20030114		
JP 06256238	A2	19940913	JP 1993-44923	19930305
CA 2099058	AA	19940108	CA 1993-2099058	19930623
PRIORITY APPLN. INFO.:			JP 1992-179711 A	19920707
			JP 1992-344333 A	19921224
			JP 1993-44923 A	19930305

ED Entered STN: 23 Jul 1994

AB Sec-Butylbenzene hydroperoxide obtained by oxidizing sec-butylbenzene is decomposed into phenol and MEK, a resulting liquid comprising MEK as the main component is washed with an aqueous alkali solution to remove carboxylic **acids**, carboxylic **acid** esters, unsatd. ketones, and aldehydes, and the washed liquid is further subjected to neutralization, dehydration, and distillation MEK prepared by this process has a high quality with regard to purity and potassium permanganate fading.

IC ICM C07C037-08
ICS C07C045-43; C07C037-74

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

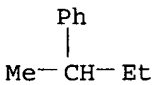
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(peroxidn. and decomposition of, for preparation of phenol and MEK)

IT 78-93-3P, MEK, preparation **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparation of, by peroxidn. and decomposition of sec-butylbenzene)

IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(peroxidn. and decomposition of, for preparation of phenol and MEK)

RN 135-98-8 CAPLUS

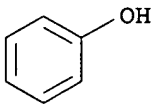
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT **108-95-2P**, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparation of, by peroxidn. and decomposition of sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



102(b) Date

L19 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:670797 CAPLUS

DOCUMENT NUMBER: 119:270797

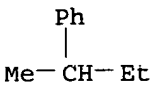
TITLE: Preparation of phenol and methyl ethyl ketone by oxidation of sec-benzene

INVENTOR(S): Yamauchi, Kazuhiro; Tamura, Mitsuhisa

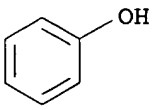
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05178773	A2	19930720	JP 1991-344978	19911226
JP 3089780	B2	20000918		
PRIORITY APPLN. INFO.:			JP 1991-344978	19911226

ED Entered STN: 25 Dec 1993
AB The title preparation involves (1) oxidation of sec-butylbenzene (I) to obtain a reaction liquid containing sec-butylbenzene hydroperoxide (II) as the main component, (2) concentration of the oxidation reaction liquid by distillation to obtain a bottoms liquid containing II as the main component and a distillate containing I as the main component from the top of the distillation column., (3) contacting the latter bottoms liquid with an **acid catalyst** to decompose II into phenol and MeCOEt, (4) neutralization of the resulting decomposition liquid with an aqueous alkali solution, separation of the oil and the aqueous layer, and recycling a portion of the aqueous layer to the neutralization step, (5) washing the oil layer with water, separation of the oil layer containing phenol and MeCOEt as the main components, and recycling a part or all of the aqueous layer to the neutralization step, and (6) distillation of the oil layer to sep. phenol and MeCOEt. The water-rinse step efficiently removes aliphatic **acid** and inorg. salts , e.g. HCO2Na, AcONa, and Na2SO4, and minimizes the content of the salts in the distillation liquid and thereby the process prevents deposition of salts in the distillation column and provides long-term operation with stability and high heat efficiency.
IC ICM C07C027-00
ICS B01J027-02; C07C037-08; C07C039-04; C07C045-53; C07C049-10; C07C407-00; C07C409-08
ICA C07B061-00
CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, sec-butylbenzene hydroperoxide from)
IT 52208-72-7P, sec-Butylbenzene hydroperoxide
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and decomposition of, in presence of concentrated sulfuric **acid**)
IT 78-93-3P, Methyl ethyl ketone, preparation **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by oxidation of sec-butylbenzene to hydroperoxide and **acid** decomposition, process for)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, sec-butylbenzene hydroperoxide from)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by oxidation of sec-butylbenzene to hydroperoxide and **acid** decomposition, process for)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:580528 CAPLUS
DOCUMENT NUMBER: 119:180528
TITLE: Preparation of phenol and methyl ethyl ketone from sec-butylbenzene
INVENTOR(S): Iwanaga, Kiyoshi; Tamura, Mitsuhisa; Nakayama, Toshio; Usui, Masahiro; Umida, Hiroyuki; Nagaoka, Hirooki
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
EP 548986	A1	19930630	EP 1992-121983		19921224
EP 548986	B1	19960313			
R: BE, DE, FR, GB, IT, NL					
JP 05178772	A2	19930720	JP 1991-344977		19911226
JP 3089779	B2	20000918			
JP 05229972	A2	19930907	JP 1992-180768		19920708
JP 06032750	A2	19940208	JP 1992-186538		19920714
JP 3225605	B2	20011105			
CA 2082688	AA	19930627	CA 1992-2082688		19921112
CA 2082688	C	20030211			
US 5298667	A	19940329	US 1992-995971		19921223
KR 231625	B1	19991115	KR 1992-25538		19921224
PRIORITY APPLN. INFO.:			JP 1991-344976	A	19911226
			JP 1991-344977	A	19911226
			JP 1992-180768	A	19920708
			JP 1992-186538	A	19920714

OTHER SOURCE(S): CASREACT 119:180528
ED Entered STN: 30 Oct 1993
AB The title process comprises the steps of: I) oxidizing one material selected from: A) sec-butylbenzene substantially free from Et hydroperoxide, carboxylic **acids** and phenol, B) sec-butylbenzene substantially free from styrenes, and C) sec-butylbenzene substantially

102(b) Date

free from methylbenzyl alc., to obtain sec-butylbenzene hydroperoxide, and II) decomposition the sec-butylbenzene hydroperoxide. Thus, oxidation of sec-butylbenzene containing 0.0084 weight% methylbenzyl alc. in air gave 12.81 weight% sec-butylbenzene hydroperoxide, whereas, similar oxidation of sec-butylbenzene containing 0.1067 weight% methylbenzyl alc. gave 5.29 weight% sec-butylbenzene hydroperoxide.

IC ICM C07C409-08
ICS C07C037-08; C07C039-04; C07C045-53; C07C049-10

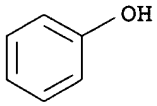
CC 25-16 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 45

IT 78-93-3P, Methyl ethyl ketone, preparation **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, from butylbenzene, process for)

IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, in synthesis of phenol and Me Et ketone)

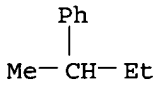
IT **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, from butylbenzene, process for)

RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(reaction of, in synthesis of phenol and Me Et ketone)

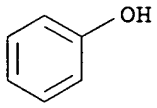
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



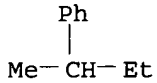
L19 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:427344 CAPLUS
DOCUMENT NUMBER: 117:27344
TITLE: Study on the photooxidation of polystyrene
AUTHOR(S): Yan, Fenshun; Zhen, Jie
CORPORATE SOURCE: Harbin. Univ. Sci. Tech., Harbing, Peop. Rep. China
SOURCE: Harbin Kexue Jishu Daxue Xuebao (1991), 15(3), 114-20
CODEN: HKJXET; ISSN: 1000-5897
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 26 Jul 1992

AB The IR absorptions at 3540 cm-1 and 3440 cm-1 after photooxidn. of polystyrene were due to the formation of -OH and -OOH group as confirmed by the photooxidn. products of the 2-phenylbutane (I) model compound I was photooxidized to give 2-phenylbutanol and 2-hydroperoxy-2-phenylbutane, which were further oxidized to give PhOH and p,p'-diphenol. Photooxidative chain scission of I proceeded through oxidation breakage of

the main chain to give PhOH and diphenol by one route and to give low-mol.-weight compds. and formation of carbonyl and Ph compds. by another.
CC 35-8 (Chemistry of Synthetic High Polymers)
IT 92-88-6P, p,p'-Diphenol **108-95-2P**, Phenol, preparation
1565-75-9P, 2-Phenyl-2-butanol 18428-18-7P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, during photooxidn. of phenylbutane as model for polystyrene)
IT **135-98-8**, 2-Phenylbutane
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(photooxidn. of, as model for polystyrene)
IT **108-95-2P**, Phenol, preparation
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, during photooxidn. of phenylbutane as model for polystyrene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**, 2-Phenylbutane
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(photooxidn. of, as model for polystyrene)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:408292 CAPLUS
DOCUMENT NUMBER: 115:8292
TITLE: Process for simultaneous preparation of methyl ethyl ketone and phenol
INVENTOR(S): Unger, Thomas Alfred
PATENT ASSIGNEE(S): Brazil
SOURCE: Braz. Pedido PI, 9 pp.
CODEN: BPXXDX
DOCUMENT TYPE: Patent
LANGUAGE: Portuguese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BR 8901852	A	19901106	BR 1989-1852	19890414

PRIORITY APPLN. INFO.: BR 1989-1852 19890414
ED Entered STN: 12 Jul 1991
AB MEK and PhOH are simultaneously prepared by oxidation of sec-BuPh (I) with air or O, followed by cleavage of the resultant hydroperoxide PhC(OOH)(Me)Et (II). The oxidation of I is preferably done at 80-180° and 3-7 bar in

102(b) Date

the presence of alkaline salts of Pb, Sb, Sn, or Bi (<1/10,000 by weight Na ion vs. I), with a concentration of <27% II, 15-25% conversion of I, and reaction time 1-10 h. For rearrangement of II to MEK and PhOH, preferred conditions are 50-80°, anhydrous, 0.1-1.2 weight% **acid** in mixture, pressure <1 bar, residence time 10-40 min., and a S-containing **catalyst.**

IC ICM C07C027-28
ICS C07C039-04; C07C049-10

CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23

ST butylbenzene oxidn **catalyst**; hydroperoxide butylbenzene rearrangement cleavage **catalyst**; phenol MEK simultaneous prepn; methyl ethyl ketone phenol prepn

IT Oxidation **catalysts**
(lead, antimony, tin, and bismuth alkaline salts, for sec-butylbenzene to hydroperoxide)

IT Rearrangement **catalysts**
(sulfur-containing, for sec-butylbenzene hydroperoxide to MEK and phenol)

IT 7704-34-9, Sulfur, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(**catalysts** containing, for rearrangement of sec-butylbenzene hydroperoxide to MEK and phenol)

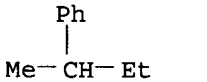
IT 7439-92-1D, Lead, alkaline salts 7440-31-5D, Tin, alkaline salts 7440-36-0D,
Antimony, alkaline salts 7440-69-9D, Bismuth, alkaline salts
RL: **CAT (Catalyst use)**; USES (Uses)
(**catalysts**, for oxidation of sec-butylbenzene to hydroperoxide)

IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, to hydroperoxide, in simultaneous preparation of MEK and phenol)

IT **108-95-2P**, Phenol, preparation
RL: **PREP (Preparation)**
(simultaneous production of MEK and, from sec-butylbenzene via hydroperoxide)

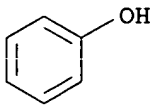
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, to hydroperoxide, in simultaneous preparation of MEK and phenol)

RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

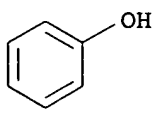


IT **108-95-2P**, Phenol, preparation
RL: **PREP (Preparation)**
(simultaneous production of MEK and, from sec-butylbenzene via hydroperoxide)

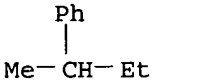
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:517403 CAPLUS
DOCUMENT NUMBER: 113:117403
TITLE: Oxidation of isobutylbenzene with molecular oxygen in liquid phase
AUTHOR(S): Burghardt, Aleksandra
CORPORATE SOURCE: Inst. Chem. Technol. Org., Polytech. Slaska, Gliwice, 44-100, Pol.
SOURCE: Chemia Stosowana (1988), 32(3-4), 523-33
CODEN: CHSWAP; ISSN: 0376-0898
DOCUMENT TYPE: Journal
LANGUAGE: Polish
ED Entered STN: 29 Sep 1990
AB Oxidation occurred mostly on the α- and β-C atoms (60 and 40%, resp.) of Me2CHCH2Ph (I). The oxidation products contained PhCH(CHMe2)OOH, PhCH2CMe2OOH, and the corresponding alcs., BzH, BzOH, PhOH, BzCHMe2, Me2CO, Me2CHOH, Me2CHCO2H, AcOH, HCO2H, and H2O as found chromatog. Free-radical reactions leading to those products were proposed. Reactivity of hydrocarbons in the oxidation process at 100° increased in the order I, PhBu, PhCHEtMe, and PhCHMe2.
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
IT Alcohols, preparation
Carboxylic **acids**, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)
IT 64-18-6P, Formic **acid**, preparation 64-19-7P, Acetic **acid**, preparation 65-85-0P, Benzoic **acid**, preparation 67-63-0P, 2-Propanol, preparation 67-64-1P, Acetone, preparation 79-31-2P, Isobutyric **acid** 100-52-7P, Benzaldehyde, preparation 100-86-7P **108-95-2P**, Phenol, preparation 611-69-8P 611-70-1P 1944-83-8P 91900-70-8P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)
IT 98-82-8, Cumene 104-51-8, Butylbenzene **135-98-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(oxidation of, reactivity in)
IT **108-95-2P**, Phenol, preparation
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, reactivity in)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

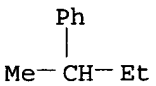


L19 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:74975 CAPLUS
DOCUMENT NUMBER: 108:74975
TITLE: Phenol, acetone, and methyl ethyl ketone from sec-butylbenzene and cumene hydroperoxide
INVENTOR(S): Yamamoto, Minoru; Yoshino, Kenji; Sasaki, Toshiki; Mizuno, Takehisa
PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

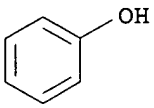
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62114922	A2	19870526	JP 1985-252856	19851113
PRIORITY APPLN. INFO.:			JP 1985-252856	19851113

ED Entered STN: 05 Mar 1988
AB Phenol, Me2CO, and MeCOEt (I) were prepared by liquid-phase oxidation of sec-BuPh (II) with mol. O-containing gas in the presence of cumene (III) or cumene hydroperoxide. Thus, mixing II and III 4 h at 120° and 5 kg/cm2-gage while bubbling in air and adding 2% aqueous NaOH to keep the solution from being **acidic**, concentration, and heating with H2SO4 in Me2CO 30 min at ≤50° gave PhOH, Me2CO, and I each in 95% yield.
IC ICM C07C027-12
ICS C07C039-04; C07C049-10
ICA B01J027-02
CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23
ST phenol prepn decompn butylbenzene hydroperoxide; acetone prepn decompn cumene hydroperoxide; MEK prepn decompn butylbenzene hydroperoxide; oxidn butylbenzene liq phase; cumene **catalyst** oxidn butylbenzene
IT Oxidation **catalysts**
(cumene or cumene hydroperoxide, for butylbenzene)
IT 80-15-9, Cumene hydroperoxide 98-82-8, Cumene
RL: **CAT (Catalyst use)**; USES (Uses)
(**catalyst**, for oxidation of butylbenzene)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, cumene or cumene hydroperoxide **catalysts** for)
IT **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by decomposition of butylbenzene hydroperoxide and cumene

hydroperoxide)
IT **135-98-8**, sec-Butylbenzene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, cumene or cumene hydroperoxide **catalysts** for)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

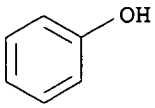


IT **108-95-2P**, Phenol, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by decomposition of butylbenzene hydroperoxide and cumene hydroperoxide)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)

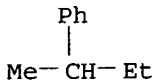


L19 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:84830 CAPLUS
DOCUMENT NUMBER: 92:84830
TITLE: Electrochemical oxidation of secondary butylbenzene on a platinum electrode in the presence of manganese sulfate
AUTHOR(S): Solomin, A. V.; Antropova, V. I.; Komarova, E. N.
CORPORATE SOURCE: USSR
SOURCE: Issled. Geterogen. Sistem., Alma-Ata (1979) 180-2
From: Ref. Zh., Khim. 1979, Abstr. No. 22B1481
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 12 May 1984
AB Title only translated.
CC 72-8 (Electrochemistry)
IT Oxidation, electrochemical
(of sec-butylbenzene, on platinum in sulfuric **acid** containing manganese sulfate)
IT 78-93-3P, preparation 98-86-2P, preparation **108-95-2P**, preparation 118-90-1P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in electrochem. oxidation of sec-butylbenzene)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, electrochem. on platinum in sulfuric **acid** containing manganese sulfate)
IT 7785-87-7
RL: PRP (Properties)
(sec-butylbenzene electrochem. oxidation on platinum in sulfuric **acid** containing)
IT **108-95-2P**, preparation
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**

(formation of, in electrochem. oxidation of sec-butylbenzene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)

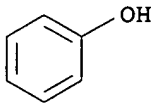


IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, electrochem. on platinum in sulfuric **acid** containing manganese sulfate)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

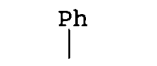


L19 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:42563 CAPLUS
DOCUMENT NUMBER: 92:42563
TITLE: Photooxidation of polystyrene. Part I. Formation of hydroperoxide groups in photooxidized polystyrene and 2-phenyl butane
AUTHOR(S): Lucki, Julia; Raanby, Bengt
CORPORATE SOURCE: Dep. Polym. Technol., R. Inst. Technol., Stockholm, Swed.
SOURCE: Polymer Degradation and Stability (1979), 1(1), 1-16
CODEN: PDSTDW; ISSN: 0141-3910
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB The primary products formed during UV irradiation of polystyrene (I) [9003-53-6] at 253 nm in air were polymer alkyl and polymer peroxy radicals. Cleavage of polymer oxy radicals led to direct formation of aliphatic keto groups on the polymer backbone and Ph radicals without disruption of the polymer chain. OOH groups in I were formed at the tertiary C atoms and had IR absorption at 3540 cm-1. OH groups in I at the tertiary C atoms had IR absorption at 3440 cm-1. The findings were supported by the formation of 2-phenyl-2-butanol [1565-75-9], 2-(hydroperoxy)-2-phenylbutane [18428-18-7], phenol [108-95-2], and p,p'-bisphenol [92-88-6] during the fast photooxidn. of the model 2-phenylbutane [135-98-8] at 253 nm. Hydroperoxy **acid** groups were not formed during the photooxidn. of I.
CC 35-6 (Synthetic High Polymers)
IT 92-88-6P **108-95-2P**, preparation 1565-75-9P 18428-18-7P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in photooxidn. of phenylbutane)
IT **135-98-8** 9003-53-6
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(photooxidn. of, hydroperoxide group formation in)
IT **108-95-2P**, preparation
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**

(formation of, in photooxidn. of phenylbutane)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)

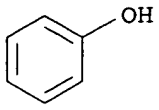


IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(photooxidn. of, hydroperoxide group formation in)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

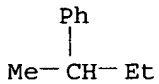


L19 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:121113 CAPLUS
DOCUMENT NUMBER: 90:121113
TITLE: Alkaline fusion of alkylbenzenesulfonic **acids**
AUTHOR(S): Bikkulov, A. Z.; Saifutdinov, A. Z.; Yukhno, G. F.
CORPORATE SOURCE: USSR
SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1978), 51(12), 2754-8
CODEN: ZPKHAB; ISSN: 0044-4618
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 12 May 1984
AB A study of the alkaline fusion (KOH) of 11 Na alkylbenzenesulfonates (toluenesulfonic, xylenesulfonic, sec- and tert-butylbenzenesulfonate, etc.) to give phenolic compds. showed the following: (a) increasing the size and number of the alkyl groups gave a reduced yield of the phenolic products, (b) dialkylbenzenesulfonates having the alkyl groups in the o- and p-positions to the sulfonate group exhibited greater reactivity than those having groups in the o- and m-positions, (c) alkaline fusion of isoalkylbenzenesulfonates took place at lower temps. than n-alkylbenzenesulfonates.
CC 25-13 (Noncondensed Aromatic Compounds)
IT 88-69-7P 90-00-6P 95-48-7P, preparation 95-65-8P 95-87-4P 98-54-4P 99-71-8P 99-89-8P 105-67-9P 106-44-5P, preparation 108-39-4P, preparation 108-68-9P **108-95-2P**, preparation 123-07-9P 496-78-6P 526-75-0P 526-85-2P 527-35-5P 527-60-6P 576-26-1P 1638-22-8P
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, from alkaline fusion of benzenesulfonate)
IT 71-43-2, reactions 95-63-6 95-93-2 98-06-6 98-82-8 100-41-4, reactions 106-42-3, reactions 108-38-3, reactions 108-88-3, reactions **135-98-8** 1077-16-3
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(sulfonation of)
IT **108-95-2P**, preparation
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**

(formation of, from alkaline fusion of benzenesulfonate)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(sulfonation of)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



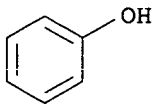
L19 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1978:120326 CAPLUS
DOCUMENT NUMBER: 88:120326
TITLE: Oxyfunctionalization of hydrocarbons. 8. Electrophilic hydroxylation of benzene, alkylbenzenes, and halobenzenes with hydrogen peroxide in superacids
AUTHOR(S): Olah, George A.; Ohnishi, Ryuichiro
CORPORATE SOURCE: Inst. Hydrocarb. Chem., Univ. South. California, Los Angeles, CA, USA
SOURCE: Journal of Organic Chemistry (1978), 43(5), 865-7
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 88:120326
ED Entered STN: 12 May 1984
AB The hydroxylation of benzene, alkylbenzenes, and halobenzenes with H2O2 was carried out in high yields in superacidic media, e.g., FSO3H-SO2ClF or FSO3H-SbF2-SO2Cl, at low temps. Phenols formed are protonated by the superacid and thus are deactivated against further electrophilic attack or secondary oxidation The hydroxyarenium intermediates in some cases undergo 1,2-methyl shift.
CC 22-5 (Physical Organic Chemistry)
IT **Phenols, preparation**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, by hydroxylation of benzenes)
IT 71-43-2, reactions 95-47-6, reactions 95-63-6 100-41-4, reactions 106-42-3, reactions 108-38-3, reactions 108-67-8, reactions 108-88-3, reactions 108-90-7, reactions **135-98-8** 462-06-6 526-73-8 538-68-1 538-93-2
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(hydroxylation of, with hydrogen peroxide)
IT **135-98-8**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(hydroxylation of, with hydrogen peroxide)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

L19 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1977:189486 CAPLUS
DOCUMENT NUMBER: 86:189486
TITLE: Phenol and 2-butanone from sec-butylbenzene
INVENTOR(S): Mikami, Ichiro; Danno, Sadao; Uchida, Izuhiko; Tazaki, Yasutaka; Kugimoto, Junichi; Okahara, Etsuo
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

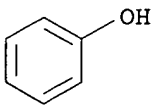
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51133239	A2	19761118	JP 1975-55477	19750513

PRIORITY APPLN. INFO.: JP 1975-55477 A 19750513
ED Entered STN: 12 May 1984
AB PhOH and MeCOEt were prepared from MeEtCHPh by liquid-phase oxidation with O in the presence of HBr. Thus, 4.28 g MeEtCHPh in 1,2-dichloroethane was placed under 1 atm HBr and 1.84 atm HCl in an autoclave and treated with O at 55° for 15 min to give 48.1% PhOH and 42.8% MeCOEt with 2.27 g MeEtCHPh conversion.
IC C07C039-04
CC 25-10 (Noncondensed Aromatic Compounds)
IT Oxidation **catalysts**
(hydrogen bromide, for sec-butylbenzene to phenol and 2-butanone)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, phenol and 2-butanone from)
IT 78-93-3P, preparation **108-95-2P**, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by oxidation of butylbenzene)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, phenol and 2-butanone from)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

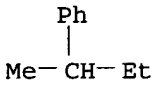
IT **108-95-2P**, preparation
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by oxidation of butylbenzene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:3877 CAPLUS
DOCUMENT NUMBER: 82:3877
TITLE: Hydroperoxides from the **autocatalytic** oxidation of sec-butylbenzene
AUTHOR(S): Georgiou, Lakis; Da Costa, Antony L.; Johnson, Herb S.
CORPORATE SOURCE: Shawinigan Chem. Div., Gulf Oil Canada Ltd., Ste. Anne de Bellevue, QC, Can.
SOURCE: Industrial & Engineering Chemistry Product Research and Development (1974), 13(4), 253-5
CODEN: IEPRA6; ISSN: 0196-4321
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB Evidence is presented for the existence of a secondary as well as a tertiary hydroperoxide in the oxidate from sec-butylbenzene. The evidence is based on a comparison of the kinetics of cleavage of cumene and sec-butylbenzene oxidates and anal. of the cleaved product from sec-butylbenzene oxidate.
CC 25-2 (Noncondensed Aromatic Compounds)
Section cross-reference(s): 22
IT 93-55-0P 98-86-2P, preparation **108-95-2P**, preparation 122-79-2P 769-59-5P 1502-79-0P 1502-80-3P 1565-75-9P
RL: **PREP (Preparation)**
(by oxidation of sec-butylbenzene)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, formation of secondary hydroperoxide in)
IT **108-95-2P**, preparation
RL: **PREP (Preparation)**
(by oxidation of sec-butylbenzene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



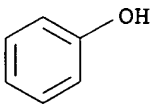
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, formation of secondary hydroperoxide in)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



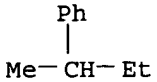
L19 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1973:515304 CAPLUS
DOCUMENT NUMBER: 79:115304
TITLE: sec-Butylbenzene hydroperoxide for making phenol, acetophenone, and methyl ethyl ketone
INVENTOR(S): Wolf, Philip Frank
PATENT ASSIGNEE(S): Union Carbide Corp.
SOURCE: Ger. Offen., 23 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2300903	A1	19730802	DE 1973-2300903	19730109
JP 48080524	A2	19731029	JP 1973-5001	19730109
FR 2182802	A1	19731214	FR 1973-599	19730109
FR 2183296	A1	19731214	FR 1973-22292	19730619

PRIORITY APPLN. INFO.: US 1972-216788 A 19720110
ED Entered STN: 12 May 1984
AB EtCMePhOOH was prepared by oxidation of EtCHMePh, containing <1% Me2CHCH2Ph and essentially free of S and olefins, by an O-containing gas at 75-100°. MeCOPh and EtCMePhOH were obtained as significant by-products.
IC C07C
CC 25-11 (Noncondensed Aromatic Compounds)
IT 78-93-3P, preparation **108-95-2P**, preparation
RL: **PREP (Preparation)**
(from sec-butylbenzene)
IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, to hydroperoxide)
IT **108-95-2P**, preparation
RL: **PREP (Preparation)**
(from sec-butylbenzene)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT **135-98-8**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(oxidation of, to hydroperoxide)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



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